ABSTRACT

An epitaxial silicon wafer which comprises a silicon wafer produced by a method characterized as comprising pulling up a silicon single crystal under a condition wherein when an oxygen concentration is 7×10^{17} atoms/cm^3 a nitrogen concentration is about 3×10^{15} atoms/cm^3 or less, and when an oxygen concentration is 1.6×10^{18} atoms/cm^3 a nitrogen concentration is about 3×10^{14} atoms/cm^3 or less, and, an epitaxial film formed on the wafer. The epitaxial film, being formed on such a wafer, has crystal defects, which are observed as LPD of 120 nm or more on the epitaxial film, in a range of 20 pieces/200-mm wafer or less. The epitaxial silicon wafer contains nitrogen atoms doped therein and also has satisfactory characteristics as that for use in a semiconductor device.